

## **North American Drought Monitor – March 2004**

**CANADA:** Most of central and eastern Canada received average or greater-than-average precipitation over the winter. New Brunswick, Prince Edward Island, and Nova Scotia received below-average snowfall and experienced a below-average spring freshet; however, there are no drought-related issues for agricultural regions at this time.

The winter snowpack is a critical source of water supply for most regions of Canada. Areas that rely on irrigation will require sufficient snow-melt runoff to ensure adequate water supply for the year ahead. Dryland agriculture will depend on the stored soil moisture, and timely and abundant spring and summer rains.

In the Prairies, most of Alberta and half of Saskatchewan received below-normal March runoff in the agricultural landscape. Mountain runoff, which is the main source for irrigation, is currently forecast to be below average; however, there are no irrigation shortages anticipated at this time. In Manitoba, runoff has generally been average or greater, reaching excessive levels with some flooding in the Red River Valley. Much of the snow melt has been reported to have infiltrated the into soil or evaporated rather than running off; therefore, soil moisture deficits continue to be a concern in Alberta, and half of Saskatchewan. Moderate and severe drought classifications (D1 and D2) are indicated in these provinces. Manitoba has experienced a substantial recovery in recent months, and soil moisture is in good supply for the 2004 growing season.

In British Columbia, the snowpack in the middle and upper elevations is generally 50 to 85 percent (%) of average in the western and central regions of the province, variable in the central agricultural regions and average in the east. Areas of concern in British Columbia include Okanagan/Kettle, Similkameen, Nicola Lake Basin, East Kootenays, Upper Bulkley/Nechako Plateau, and Liard.

At this time, the summer forecast is for below-average precipitation in western Canada. There is not sufficient confidence in the forecast for this season for it to be used in any decision-making capacity. Should dry conditions persist, another year of poor soil moisture conditions and water-supply shortages in Saskatchewan and Alberta will likely develop.

**UNITED STATES:** The contiguous United States (excluding Alaska and Hawaii) experienced its third-warmest, fifteenth-driest March during the 110-year period of record, according to preliminary information provided by the NOAA National Climatic Data Center. It was the nation's warmest March since 1946 and driest since 1986. Warmth and dryness were especially pronounced in the nation's hardest-hit drought areas from the High Plains westward, maintaining significant soil moisture shortages and triggering an unusually early start to the Western snow-melt season. Farther east, abnormally dry conditions developed in the Southeast, where it was the driest March on record in Georgia and South Carolina. Pockets of dryness also developed in the Northeast. In contrast, widespread March precipitation provided drought relief in parts of the upper Mississippi Valley.

Although the month opened on a cool, stormy note in the West, dry weather and record-high

temperatures arrived in many areas starting March 7. Very warm weather also prevailed on the Plains, accompanied by mostly dry weather from eastern Colorado and northwestern Kansas northward into Montana. In contrast, showery weather aided pastures and winter grains across the southern and eastern Plains. Late in the month, however, heavy rain and melting snow caused lowland flooding in eastern North Dakota and northwestern Minnesota. Meanwhile, generally wet weather in the Corn Belt slowed fieldwork but boosted soil moisture reserves in preparation for spring planting. Rain and snow eased long-term precipitation deficits across the upper Midwest and maintained adequate to locally excessive soil moisture for winter wheat across the southern and eastern Corn Belt. Farther south, an intensifying, six-month dry spell affected areas from near the mouth of the Mississippi River to the southern Atlantic States. By month's end, dry conditions increased stress on Southeastern pastures, winter grains, and emerging summer crops. In contrast, heavy rainfall eased irrigation demands in the lower Rio Grande Valley.

Monthly temperatures generally averaged 4 to 8°F (2.2 to 4.4°C) above normal in the upper Midwest and across the western half of the United States. Readings were as much as 10°F (5.6°C) above normal in parts of California and the Desert Southwest. Temperatures averaged 2 to 4°F (1.1 to 2.2°C) above normal in most locations from the Mississippi River to the Appalachians, but were as much as 2°F (1.1°C) below normal along the Atlantic Seaboard. Brief Eastern warm spells during the first week of March and again toward month's end prevented more significant negative temperature departures along the Atlantic Coast.

**MEXICO:** Normal March rainfall is quite low in much of Mexico, typically exceeding 50 millimeters (1.97 inches) only in a few locations adjacent to the Bay of Campeche and across extreme northwestern Baja California. Normal March totals ranging from 25 to 50 millimeters (0.98 to 1.97 inches) are confined to northwestern Baja California, southeastern Mexico, and the Gulf Coast region, including the Yucatan Peninsula.

Nevertheless, March was a wetter-than-normal month across much of Mexico, excluding northern portions of Baja California, much of the Yucatan Peninsula, and scattered locations along the Pacific Coast. The Servicio Meteorológico Nacional (SMN) reported an areal mean of 212% of normal precipitation for the country, with the wettest conditions (March rainfall of 50 millimeters or more in many locations) from the Gulf Coast westward to the Sierra Madre Oriental, stretching southeastward through Veracruz and into portions of Tabasco and Chiapas.

Despite a wet January and March, long-term (multi-year) drought across northwestern Mexico showed only a gradual response to above-normal precipitation. A core area of severe, extreme, and exceptional drought (D2, D3, and D4) persisted in northeastern Sonora and northern Chihuahua. Farther south, rainfall was sufficient to remove the agricultural drought designation in Mexico's Pacific Coast vegetable area in northern Sinaloa. Elsewhere, there was some reduction in the coverage of abnormal dryness (D0) from the Southern Plateau into southeastern Mexico, although pockets of dryness persisted from the Pacific coastal region of Oaxaca and Chiapas northeastward into Yucatan.